

MRMC
INNOVATION IN MOTION

TURNTABLE

AUTOMATED PRODUCT PHOTOGRAPHY



QUICK START GUIDE

Part number: MRMC-1082-00

MRMC-1096-00

MRMC-1578-00

Product Code: MRMC-1502-02

Turntable Quick Start Guide

Part number: MPMC-1082-00, MPMC-1096-00, MPMC-1578-00

Product Code: MPMC-1502-02

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Chapter 1 Quick Start



Important safety instructions

To ensure the best from the product, please read this manual carefully. Keep it in the safe place for future reference.

To reduce the risk of electric shock, do not remove the cover from the unit. No user serviceable parts inside. Refer servicing to qualified personnel.

General care

- Do not force switches or external connections.
- When moving the unit, disconnect the mains cable.
- Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Use a clean dry cloth.
- Do not use around flammable gas. All electrical equipment can generate sparks that can ignite flammable gas.
- Keep away from pets and children. The head has powerful motors that can pinch, so take care not to get your hands trapped in the head or cabling.
- Keep cables tidy. Use cable ties to keep them out of harm's way. If you have a head with slip rings then make use of them; avoid running any cables between the base and the rotating head or camera.

Location

Installation of this unit should be away from sources of excessive heat, vibration, and dust.

Intellectual property

This product includes confidential and/or trade secret property. Therefore, you may not copy, modify, adapt, translate, distribute, reverse engineer, or decompile contents thereof.

Overview

Thank you for using the Turntable from Mark Roberts Motion Control (MRMC). You can use the Turntable for day in and day out use in product photography. It has three variants: Small, Medium and Large turntables. Turntable gives you the following features:

- High speed
- Zero backlash
- Precise movement
- Different size disks can be used depending on your product dimensions
- Medium Turntable is centreless so cables or power can be fed through to appliances
- Small turntable can be positioned upside down to hang fashion accessories on such as bags
- Large turntable can take weight of up to 600kg

Large Turntable

Connecting the cables



Driver box
(similar to that of
a Milo or Titan)



Motor cable plugs to
one of the axis ports



The diagram shows a typical application.

The controller can be any MRMC controller such as a PC running Flair Motion Control Software or one of the MSA-based controllers such the Large Flat Panel (LFP), MSA-20 Handwheels, Joystick Controller, or Mini MSA.

Fitting the disc



Adjusting the legs



1. Loosen the four screws on each leg to adjust the leg for supporting larger objects on the turntable.
2. Use a tape measure to ensure that all the legs are pulled by the same length so the turntable is balanced properly.
3. After you have adjusted the legs, tighten the screws.

Medium Turntable

Connecting the Cables

USB Joystick



The diagram shows a typical application. Attach the power cables last.

The controller can be any MRMC controller such as a PC running Flair Motion Control Software or one of the MSA-based controllers such as the Large Flat Panel (LFP), MSA-20 Handwheels, Joystick Controller, or Mini MSA.

Small Turntable

Connecting the Cables

USB Joystick



The diagram shows a typical application. Attach the power cables last.

The controller can be any MRMC controller such as a PC running Flair Motion Control Software or one of the MSA-based controllers such as the Large Flat Panel (LFP), MSA-20 Handwheels, Joystick Controller, or Mini MSA.

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Chapter 2 Turntable iPad App

Connecting the Cables

To use the Turntable with Apple iPad as a controller with the MRMC Turntable App installed on it:

1. Connect the Wi-Fi router supplied, Quad box, and Turntable, as shown.
2. Install the MRMC Turntable App on your Apple iPad.
3. Power up the Wi-Fi router supplied, Quad box, and Turntable.
4. In the iPad Wi-Fi settings, select **MRMC-TT-01** as the Wi-Fi network; the key is **turntable1234**.

Note

If you are using an existing Wi-Fi router for internet access, you can use that instead of the router supplied by MRMC provided it is in the same network subnet as the Quad box.

5. Start the MRMC Turntable App.

Important

When using the App, if the reconnecting fails (after the iPad was switched to sleep), restart the App. This is a known issue which will be resolved in the next update.



Apple® iPad® 7.9" or 9.7"



WiFi Router



ETHERNET

POWER

Quad box

Rear

Front



Small Turntable

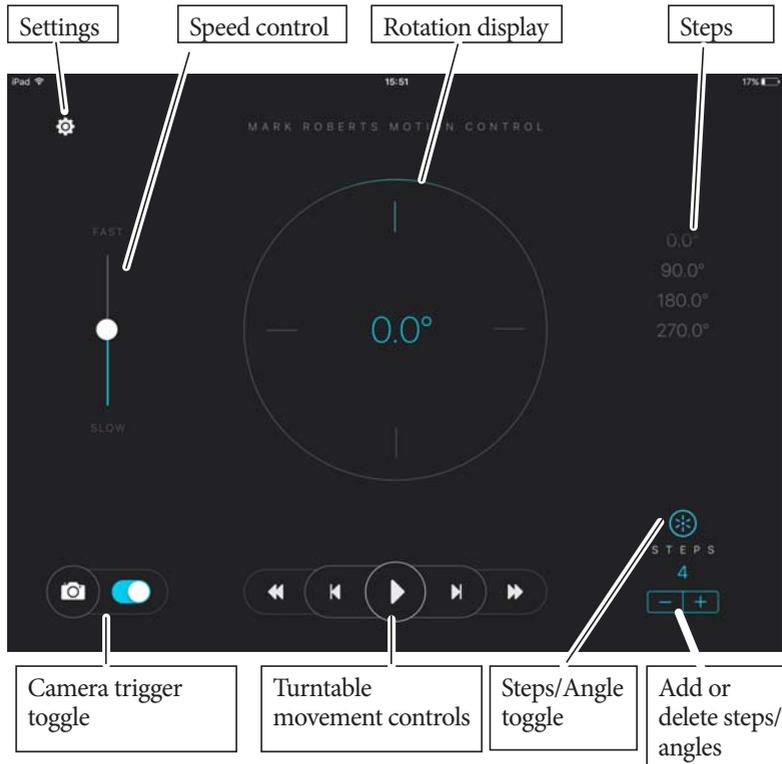


STEPPER MOVER MOTOR

POWER

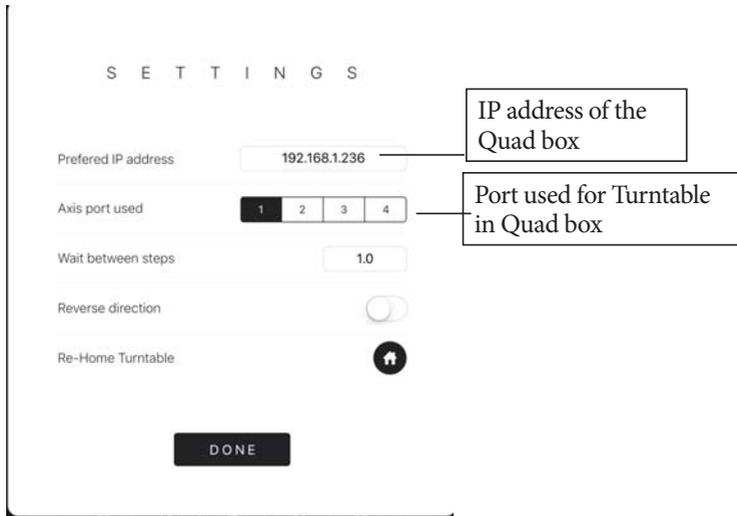


Using the Turntable iPad App



Settings button

This button displays a dialog box where you can specify the Turntable settings. The default IP address of the Quad box which is 192.168.1.236 is entered here. Do not change this IP Address. Axis port is the port in the Quad box which connects with the Turntable. Specify here, how long do you want the Turntable to pause before moving to the next step. You can also reverse the direction of movement of the Turntable and also Home the Turntable here.



Rotation display

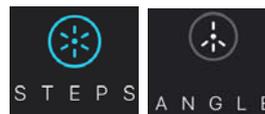
Rotation displays shows the graphical representation of the rotation points.

Steps

Lists the steps in degrees at which the Turntable will pause. There are 4 steps or angles by default. The step at which the Turntable is due next is highlighted.

Steps/Angle toggle button

This button allows you to specify whether the steps in the rotation will be at equidistant steps or at specific user-defined angles.

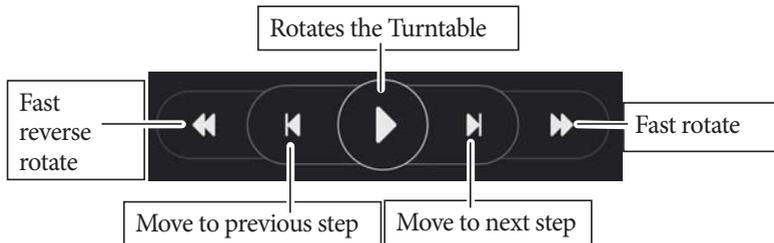


Add or delete angles or steps

When in the Steps mode, pressing the '+' button will add steps and make the steps equidistant. When in Angle mode, the App allows you to add a custom angle. You can use the '-' button to delete the angles or steps.

Turntable movement controls

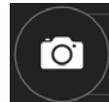
The Play button is used to starting the system stepping through the rotation steps at the defined speed. Other buttons are step controls to move to next or previous steps and fast forward or fast reverse buttons, which when clicked will rotate the Turntable at a higher speed.



When a move is playing, this bar replaces the Play button with the Stop button that can be used to stop the Turntable at any point.

Camera trigger button

The trigger button can be used to manually capture a photograph when a camera is connected to the Quad box.



Camera toggle

When this toggle is 'On', the Turntable App will trigger the camera automatically to click a photograph at every step. The turntable will pause for the duration specified in the Settings dialog box for the camera to click a photograph.

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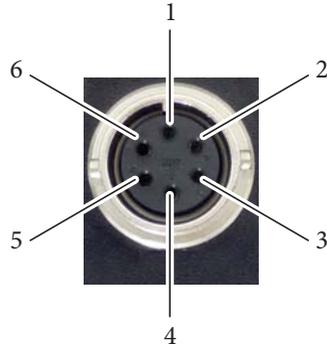
Appendix 1 Back panel

Connector summary

Stepper motor connector

This connector connects the model mover motor cable to the stepper motor connector on the quad box. The cable can also be a split to provide 48V power to the quad box.

1. GND
2. 24V
3. 5V
4. Homing Datum
5. Step
6. Direction



Notes

Appendix 2 **Specifications**

Large Turntable

Weight: 73kg including the disc

Power requirements: 5 amps from 140V from Milo power supply

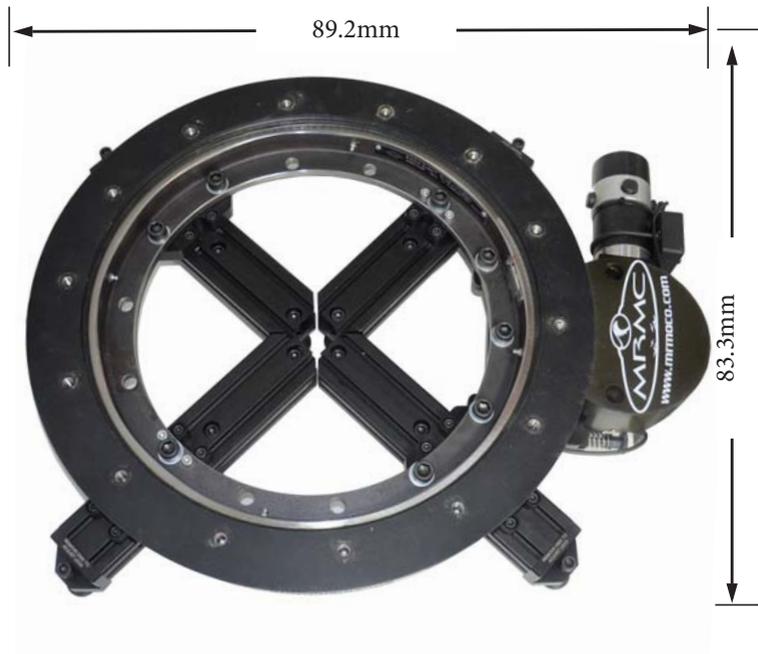
Temperature range: -10 to +45 °C

Humidity tolerance: 0% to 90% relative humidity, non-condensing

Rotation speed: 160°/s

Load capacity: 600Kg

Dimensions are shown as follows. All measurements are in mm.



Medium Turntable

Weight: 2.8Kg

Power requirements: 24-48 Volts DC

Temperature range: -10 to +45 °C

Humidity tolerance: 0% to 90% relative humidity, non-condensing

Rotation speed: 90°/s

Load capacity: 200Kg

Dimensions are shown as follows. All measurements are in mm.



Medium Turntable

Small Turntable

Weight: 2.8Kg

Power requirements: 24 Volts DC

Temperature range: -10 to +45 °C

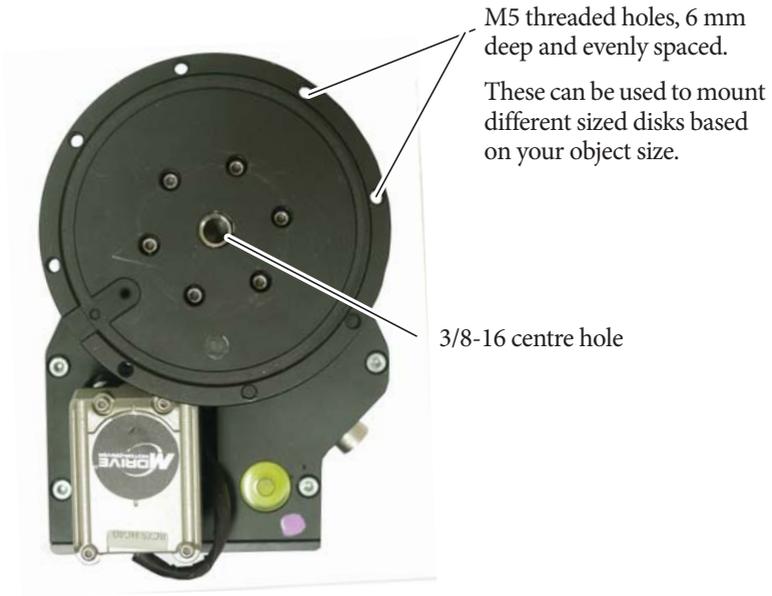
Humidity tolerance: 0% to 90% relative humidity, non-condensing

Rotation speed: 100°/s

Load capacity: 20kg



Small Turntable mounting holes

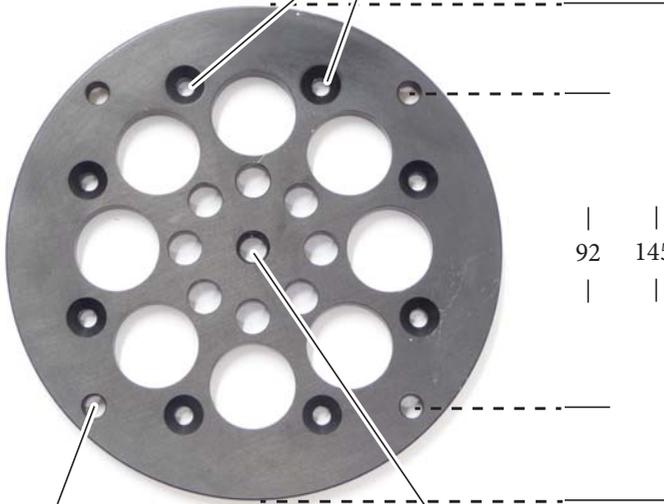


Small riser plate



M5 unthreaded countersunk holes for attachment to the bottom of the head, using M5 CSK (countersunk) bolts 12 mm long.

Thickness: 8 mm

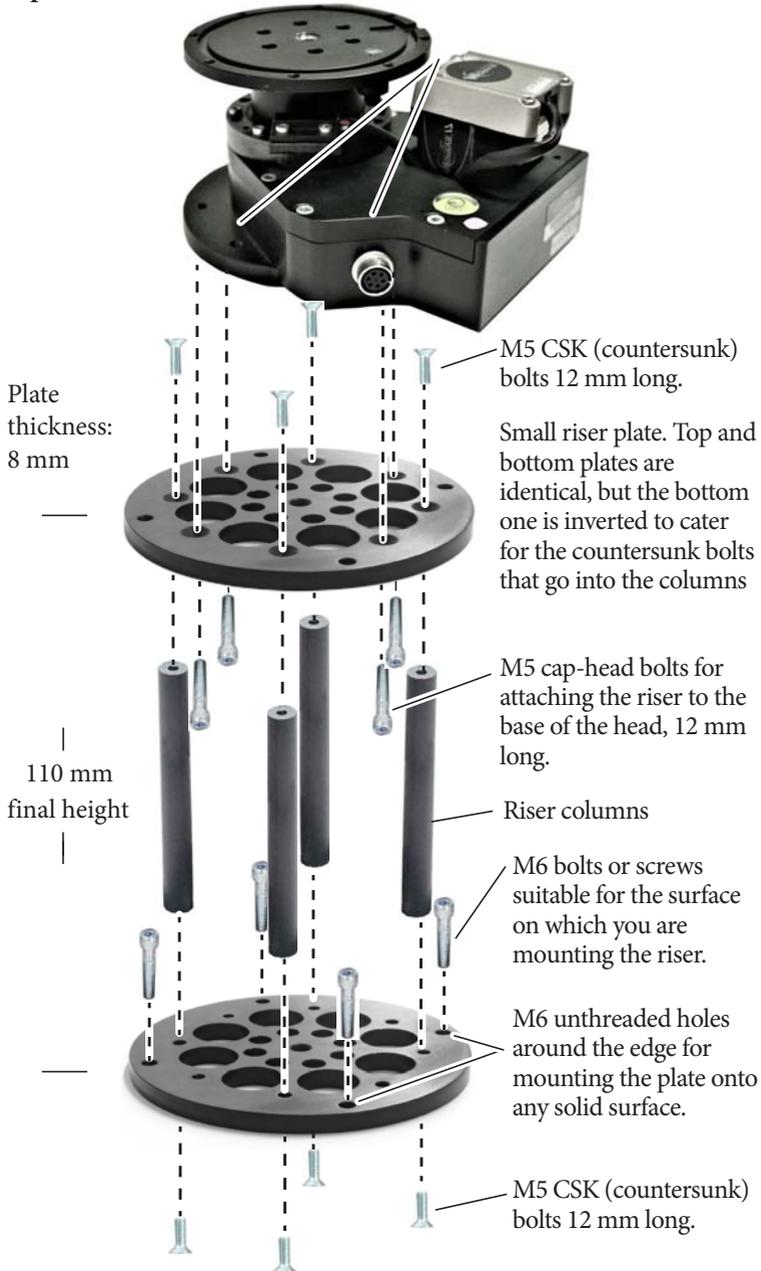


92	145

M6 unthreaded holes around the edge for mounting the plate onto any solid surface.

3/8-16 centre hole threaded for a standard heavy-duty tripod mounting bolt. All other holes in the plate are unthreaded.

Optional riser

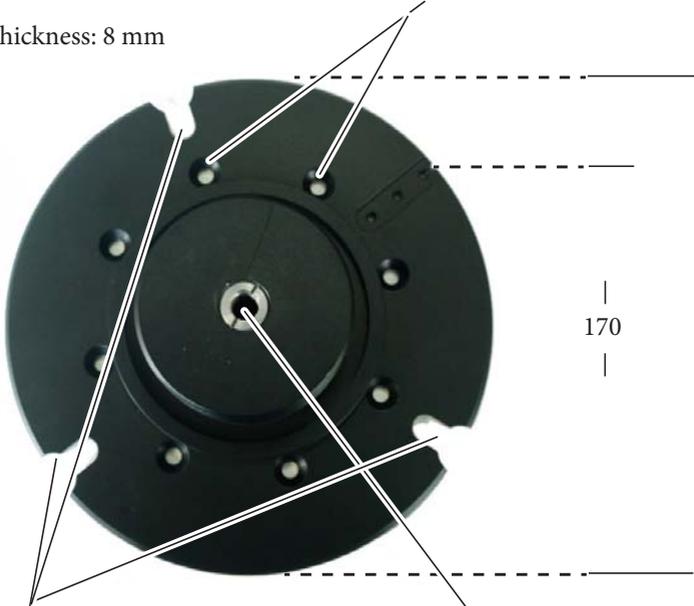


Mitchell Mounting adaptor plate



M5 unthreaded countersunk holes for attachment to the bottom of the head, using M5 CSK (countersunk) bolts 12 mm long.

Thickness: 8 mm



170

M8 mounting slots

3/8-16 centre hole threaded for a standard heavy-duty tripod mounting bolt. All other holes in the plate are unthreaded.

Small turntable -
Underslung



Mitchell mounting
adapter plate can
be used to mount
small Turntable in
an underslung or
overslung position

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Appendix 3 Turntable Ethernet connection

There is an option of connecting the Apple iPad via Ethernet. For this you will need the Apple USB Ethernet adapter and Apple Lightning to USB 3 Camera Adapter.



1. Connect the Lightning input on the Apple USB3 Camera Adapter with the Apple Lightning to USB cable.
2. Connect the USB input on the USB 3 Camera Adapter to the Ethernet Adapter's USB output.
3. Plug the short Lightning cable to the iPad itself.
4. Connect the Quad Box to the USB Ethernet adapter's Ethernet input slot via an Ethernet cable.

The adapters need to be provided adequate power for them to work.

5. The iPad's Wi-Fi should be turned off, and in the Settings (after connecting everything together) the "Ethernet" tab will appear where the IP can be set manually to match the QuadBox's subnet domain.

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